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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,613	02/09/2004	Laurence E. Allen III	10887-009US1	1619

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EXAMINER	
MILLER, JONATHAN R	
ART UNIT	**PAPER NUMBER**
3653	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/775,613	ALLEN, LAURENCE E.	
	Examiner	Art Unit	
	Jonathan R. Miller	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-11,13-18 and 29-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-11, 13-18, 29-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by Laskowski et al. The reference discloses performing a classification separation on a slurry in a density separator, wherein the slurry includes a separation liquid and one or more particulate media materials and the particulate media materials include particles having a size between 5 and 30 microns, the separation is performed to produce a classified media having a particle size distribution between a first particle size threshold and a second particle size threshold, where the first and second particle size thresholds are determined by characteristics of the density separator; and repeating the step of performing a classification separation until the classified media is substantially free of particles 5 microns and under (col. 5, lines 61+).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 5-11, 13, 14, 29-31, 34 and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Laskowski et al. in view of Vandeputte. Laskowski et al. discloses performing one or more classification separations on a slurry including a separation liquid and one or more particulate media materials, wherein performing the one or more classification separations separates from the slurry a coarse fraction containing coarse particles of the one or more media materials, the coarse particles having a particle size greater than a first particle size threshold, performing one or more classification separations to separate from the slurry a fine fraction containing fine particles of the one or more media materials, the fine particles having a particle size less than a second particle size threshold, wherein the one or more classification separations separating from the slurry a coarse fraction and the one or more classification separations to separate from the slurry the fine fraction produce a classified media having a controlled particle size distribution of the particulate media materials, combining the classified media with a mixture to be separated to generate a separation mixture, and performing one or more density separations on the separation mixture (col. 5, lines 61+; col. 4, lines 18+). Laskowski et al. fails to disclose the mixture to be separated includes plastic. Vandeputte discloses utilizing a density separator with a dense medium to separate a mixture, the mixture to be separated includes plastic (abstract). At the time of the invention, it would have been obvious to one of ordinary skill in the art that the method and apparatus disclosed in Laskowski et al. could be used to separate other types of materials as disclosed by Vandeputte. Laskowski et al. and Vandeputte are analogous art as they are from the same field of endeavor: density separators.

5. With regards to claim 2, Laskowski et al. further discloses regenerating the classified media by performing a classification separation of the media after performing at least one density separation on the separation mixture (col. 3, lines 2+).

6. With regards to claim 3, Laskowski et al. discloses performing one or more classification separations on a slurry including a separation liquid and one or more particulate media materials to produce a classified media having a controlled Particle size distribution of the particulate media materials: combining the classified media with a mixture to be separated to generate a separation mixture, performing one or more density separations on the separation mixture- and regenerating the classified media by performing a classification separation of the media after performing at least one density separation on the separation mixture, including removing particulate material from the classified media having a particle size smaller than a fine size particle threshold (col. 5, lines 61+; col. 4, lines 18+). Laskowski et al. fails to disclose the mixture to be separated includes plastic. Vandeputte discloses utilizing a density separator with a dense medium to separate a mixture, the mixture to be separated includes plastic (abstract). At the time of the invention, it would have been obvious to one of ordinary skill in the art that the method and apparatus disclosed in Laskowski et al. could be used to separate other types of materials as disclosed by Vandeputte. Laskowski et al. and Vandeputte are analogous art as they are from the same field of endeavor: density separators.

7. With regards to claim 5, Laskowski et al. further discloses before performing a first density separation on the separation mixture, adding a very coarse fraction of the one or more media materials to the mixture, the very coarse fraction containing media particles that substantially report to separator underflow (col. 8, lines 9+).

8. With regards to claim 6, Laskowski et al. further discloses the first particle size threshold and the second particle threshold are determined by parameters of a separation system (col. 5, lines 39+).

9. With regards to claim 7, Laskowski et al. further discloses performing one or more classification or density separations on the slurry or the separation mixture, respectively includes separating the slurry or the separation mixture using one or more hydrocyclone separators (col. 5, lines 61+; col. 4, lines 18+).

10. With regards to claim 8, Laskowski et al. further discloses performing one or more classification or density separations on the slurry media or the separation mixtuxc, respectively, includes separating the slurry or the separation mixture using one or more cylindrical vortex separators (col. 1, lines 17+).

11. With regards to claim 9, Laskowski et al. further discloses performing one or more classification or density separations on the slurry or the separation mixture, respectively, includes separating the slurry or the separation mixture using one or more hydrocyclone separators and one or more cylindrical vortex separators (col. 1, lines 17+).

12. With regards to claim 10, Laskowski et al. further discloses performing one or more classification separations on the slurry includes separating the slurry using an arrangement of one or more density separators; and performing one or more density separations on the separation mixture includes separating the separation mixture using the arrangement of one or more density separators (col. 1, lines 17+; col. 5, lines 60+).

13. With regards to claim 11, Laskowski et al. further discloses the one or more particulate media materials include one or more of magnetite, titanium dioxide, sand or ferrosilicate (col. 5, lines 39+).

14. With regards to claim 13, Laskowski et al. further discloses the one or more particulate media materials include magnetite and the separation classified media includes magnetite particles having a particle size distribution in the range from about 5 to about 30 microns (Table 1).

15. With regards to claim 14, Laskowski et al. further discloses the one or more particulate media materials include magnetite and the media includes magnetite particles having a particle size distribution in the range from about 5 to about 25 microns (Table 1).

16. With regards to claim 29, Laskowski et al. discloses performing one or more classification separations on a slurry including a separation liquid and one or more particulate media materials to produce a classified media having a controlled Particle size distribution of the particulate media materials, the one or more particulate media materials including one or more of magnetite, titanium dioxide, sand or ferrosilicate, combining the classified media with a mixture to be separated to generate a separation mixture, performing one or more density separations on the separation mixture (col. 5, lines 61+; col. 4, lines 18+). Laskowski et al. fails to disclose the mixture to be separated includes plastic or metal. Vandeputte discloses utilizing a density separator with a dense medium to separate a mixture, the mixture to be separated includes plastic or metal (abstract; page 2, para. 34). At the time of the invention, it would have been obvious to one of ordinary skill in the art that the method and apparatus disclosed in Laskowski et al. could

be used to separate other types of materials as disclosed by Vandeputte. Laskowski et al. and Vandeputte are analogous art as they are from the same field of endeavor: density separators.

17. With regards to claim 31, Laskowski et al. fails to disclose combining the classified media with a mixture including plastics and separating the mixture in the density separator. Vandeputte discloses utilizing a density separator with a dense medium to separate a mixture, the mixture to be separated includes plastic (page 2, para. 34). At the time of the invention, it would have been obvious to one of ordinary skill in the art that the method and apparatus disclosed in Laskowski et al. could be used to separate other types of materials as disclosed by Vandeputte. Laskowski et al. and Vandeputte are analogous art as they are from the same field of endeavor: density separators.

18. With regards to claim 34, Laskowski et al. discloses performing one or more classification separations on particulate media materials, wherein performing the one or more classification separations separates from the particulate media materials a coarse fraction containing coarse particles of the one or more media materials, the coarse particles having a particle size greater than a first particle size threshold; performing one or more classification separations to separate from the particulate media materials a fine fraction containing fine particles of the one or more media materials, the fine particles having a particle size less than a second particle size threshold, wherein the one or more classification separations separating from the particulate media materials a coarse fraction and the one or more classification separations to separate from the particulate media materials the fine fraction produce a classified media having a controlled particle size distribution of the particulate media materials; combining a slurry of the classified media in a separation liquid with a mixture to be separated to generate a separation

mixture, and performing one or more density separations on the separation mixture (col. 5, lines 61+; col. 4, lines 18+). Laskowski et al. fails to disclose wherein the mixture to be separated includes plastic. Vandeputte discloses utilizing a density separator with a dense medium to separate a mixture, the mixture to be separated includes plastic (page 2, para. 34). At the time of the invention, it would have been obvious to one of ordinary skill in the art that the method and apparatus disclosed in Laskowski et al. could be used to separate other types of materials as disclosed by Vandeputte. Laskowski et al. and Vandeputte are analogous art as they are from the same field of endeavor: density separators.

Claim Rejections - 35 USC § 112

19. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

20. Claims 1, 2, 5-11, 13-18 and 32-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 1 and 34 recite: "performing one or more classification separations on a slurry" and "performing one or more classification separations". This renders the claims indefinite, as there are at least two classification separations.

Allowable Subject Matter

21. Claims 3 and 29 were objected to as dependent upon rejected claims and it was noted that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant, however, did not include all of the limitations of the base claim and any intervening claims.

22. Claims 15 – 18, 32 and 33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

23. Applicant's arguments with respect to claims 1, 2, 5-11, 13, 14 and 30-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan R. Miller whose telephone number is (571) 272-6940. The examiner can normally be reached on M-F: 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy A. Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jrm

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